



# Innovation and Creativity

## About this Topic: Innovation and Creativity



### Topic Mentor

#### Dorothy Leonard

Dorothy Leonard is the William J. Abernathy Professor Emeritus of Business Administration at Harvard Business School, where she teaches courses in corporate creativity, new product and process design, knowledge management, and innovation.

Professor Leonard is the author of two books on innovation, *Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation* and *When Sparks Fly: Igniting Group Creativity*. Professor Leonard's major research interests, consulting expertise, and teaching efforts relate to creativity and managing the innovation process.

### Topic Source Notes

#### Learn

Teresa M. Amabile. "Creativity and Innovation in Organizations." Harvard Business School Case Note # N9-396-239, January 5, 1996.

Derm Barrett. *The Paradox Process*. New York, New York: AMACOM, 1997.

Mark Cannon and Amy Edmondson. "Confronting failure: Antecedents and Consequences of Shared Learning-Oriented Beliefs in Organizational Work Groups." 1999 (under review by an academic journal).

Mihaly Csikszentmihalyi. *Creativity: Flow and the Psychology of Discovery and Invention*. New York: HarperCollins, 1996.

Peter Drucker. "The Discipline of Innovation." *Harvard Business Review*. November–December, 1998.

Dorothy Leonard. *Managing Groups for Creativity and Innovation*. Boston: Harvard Business School Publishing, 1998.

Dorothy Leonard and Walter Swap. *When Sparks Fly: Igniting Creativity in Groups*. Boston: Harvard Business School Press, 1999.

Michael Michalko. *Cracking Creativity: The Secrets of Creative Genius*. Berkeley, Calif.: Ten Speed Press, 1998.

William C. Miller. *Flash of Brilliance*. Reading, Mass.: Perseus Books, 1999.

Alan G. Robinson and Sam Stern. *Corporate Creativity*. San Francisco: Berrett-Koehler, 1997.

Ernie J. Zelinski. *The Joy of Thinking Big*. Berkeley, Calif.: Ten Speed Press, 1998.

## Steps and Tips

Dorothy Leonard. *Managing Groups for Creativity and Innovation*. Boston: Harvard Business School Publishing, 1998.

## Tools

Dorothy Leonard. *Managing Groups for Creativity and Innovation*. Boston: Harvard Business School Publishing, 1998.

Rebecca M. Saunders. "Better Brainstorming." Harvard Management Communication Letter, November, 1999.

Scott G. Isaksen, K. Brian Dorval and Donald J. Treffinger. *Creative Approaches to Problem Solving*. Dubuque, Iowa: Kendall/Hunt Publishing Company, 1994.

Scott G. Isaksen, K. Brian Dorval and Donald J. Treffinger. *Toolbox for Creative Problem Solving*. Williamsville, New York: The Creative-Problem Solving Group - Buffalo, 1998.

## What Would You Do?

### What would you do?

José was in charge of launching an aggressive, new marketing plan. His team consisted mostly of analytical thinkers like himself. Before the project got underway, someone suggested that he bring on people with different skill sets to enhance the "intellectual diversity" of his group. The idea was intriguing, but different skill sets probably translated into different ways of thinking, different expectations, and very different personalities. All that diversity could mean chaos, and that made José nervous.

What would you do?

Chaos at the beginning of the creative process is a good thing. In order to generate fresh, new ideas that push the boundaries, José should invite people with different points of view and different areas of expertise to join his team. For example, José might include someone from Sales who would represent the voice of the customer, and someone from Product Development who's good at generating unusual ideas. When people with different thinking styles and expertise interact, they may indeed come up with conflicting points of view. But they will also likely generate more innovative ideas that will, in turn, yield a more original, creative marketing campaign.

In this topic, you'll learn how to combine different approaches and sets of expertise to build a diverse team or enhance an existing one, establish ground rules for creative brainstorming, and use tools that can help you resolve conflicts to get the most out of your team.

Part of your job as a manager is to foster new ideas. But how do you assemble a team with the right mix of skills and perspectives to promote creativity?

## Topic Objectives

This topic helps you:

- Recognize your own cognitive preferences as well as those of your team
- Assess how creativity is supported in your work environment
- Design teams to increase their creative potential and channel conflict towards productive purposes
- Alter attitudes, group norms, and physical surroundings in ways that improve the likelihood of innovative results

## Nurturing creativity

“Every child is an artist. The problem is how to remain an artist once he grows up.”  
–Pablo Picasso



Is your group having trouble generating new business ideas? Is the group thinking too much along traditional lines, or having difficulty thinking very far down the road? Is your group reluctant to take risks? What can you do as a manager? Are there steps you can take to change such patterns of behavior?

Here's the good news: the answer to the last question is yes. Essentially, all the dilemmas just described trace back to a problem in the creative functioning of the group. Contrary to what many people believe, group creativity doesn't just happen—it can be planned for, nurtured, and enhanced.

## Unleashing creative potential



As a manager, you are the designer of your group. Even though you probably didn't have the opportunity to handpick the members of the team you supervise, you can shape and mold their interaction. The way you manage the various personalities can help unleash your team's creative potential. Make no mistake about it, this can be very demanding work. You start by developing a deep appreciation for the different thinking styles of each member of your team. Then you consciously try to have those differing approaches rub against each other—making sure that the "abrasion" improves rather than undermines the quality of the group's work.

There are other steps you can take as well. By paying close attention to group norms, you can foster a climate in which people feel good about their work, in which they are motivated to seek out problems and solve them. You can alter the physical workspace in ways that make for more robust, stimulating communication. And you can lead your group through structured thinking exercises that will help them make connections they might not have made otherwise.

## Definitions



Just what are creativity and innovation? You know them when you see them, right? But a deeper understanding of what creativity is—and is not—can help you enhance the creativity of any group you lead. Let's start with a couple of definitions, and then move on to correct the most common misconceptions people have about creativity.

**Creativity** is a process of developing and expressing novel ideas that are likely to be useful.

**Innovation** is the embodiment, combination, and/or synthesis of knowledge in original, relevant, valued new products, processes, or services.

## Distinctions



Embedded in these definitions are three key insights:

1. **Creativity is not so much a talent as it is a goal-oriented process.** Making your group more innovative is not a matter of importing a few people who have creative character traits, and then relying on these folks for all your breakthrough ideas. Rather, it's a matter of designing a collaborative approach that maximizes everyone's distinctive gifts, experience, and expertise. Moreover, the purpose or goal of the creative process is the solving of a particular problem or the satisfying of a specific need.
2. **Creativity involves convergent as well as divergent thinking.** The creative process begins with **divergent thinking**—a breaking away from familiar or established ways of seeing and doing that produces novel ideas. **Convergent thinking** occurs in the later stages of the process. As the original ideas generated by the divergent thinking are communicated to others, they are evaluated to determine which ideas are genuinely novel and worth pursuing. The group then uses convergent thinking to choose an option with the potential to solve the problem that initiated the creative process.
3. **An innovation is the end result of the creative process.** Again, creativity is a process you employ to improve your problem solving. So you're not done until your creative efforts have produced a product, service, or process that answers the original need or solves the problem you identified at the outset.

## Creativity is misunderstood



There's actually quite a bit of research on creativity that's been done over the years. In the course of all this experimentation and exploration, it's become clear that creativity is a widely misunderstood subject. Do you have any of the following misconceptions about creativity? Doing away with them extends your managerial arena—the range of possible actions you can take to maximize your group's creative potential.

By defying the five misconceptions about creativity, managers can extend their teams' creative dynamics.

#### **Misconception #1**

##### **The smarter you are, the more creative you are.**

Intelligence correlates with creativity only up to a point. Once you have enough intelligence to do your job, the relationship no longer holds. That is, above a fairly modest threshold—an IQ of about 120—there is no correlation between intelligence and creativity.

#### **Misconception #2**

##### **The young are more creative than the old.**

Age is not a clear predictor of creative potential. Research shows that it usually takes seven to ten years to build up deep expertise in a given field—the kind of expertise that enables you to perceive patterns of order or meaning that are invisible to the novice. Thus, in the business world, the necessary creativity can be found in an adult of any age. At the same time, however, expertise can *inhibit* creativity: experts sometimes find it difficult to see or think outside established patterns.

#### **Misconception #3**

##### **Creativity is reserved for the few—the flamboyant high rollers.**

The willingness to take calculated risks and the ability to think in untraditional ways *do* play a role in creativity. But that doesn't mean you have to be a bungee jumper in order to be creative. It doesn't mean that you have to be markedly different from everyone else. Nor does it mean that creativity is restricted to high-impact, high-risk endeavors. Moreover, there are steps managers can take to help anyone be a more innovative worker. On rare occasions, those innovations will be visionary leaps forward that revolutionize an industry. But more often, they will be small improvements that advance the organizational cause.

#### **Misconception #4**

##### **The creative act is essentially solitary.**

In fact, a high percentage of the world's most important inventions resulted not from the work of one lone genius, but from the collaboration of a group of people with complementary skills. Individuals and groups who make important discoveries pass through a number of stages. The stage of illumination, when a flash of insight occurs, is the next-to-last stage. Although this stage tends to get all the press, most innovations come about only after much toil, many dead ends, and more than a few apparent breakthroughs that don't pan out.

#### **Misconception #5**

##### **You can't manage creativity.**



Granted, creativity is rather like a genie that can't be bottled: you can never know in advance who will be involved in a creative act, what that act will be, or precisely when or how it will occur. Nevertheless, as a manager, you can create the conditions that make creativity much more likely to occur. That is, you can increase the probability of innovation.

So what's involved in creating these conditions?

- Carefully determining the composition of your group.
- Enriching the workplace environment—the psychological and the physical environment.
- Providing tools and techniques that enhance idea generation.
- Managing the process of innovation so that the best insights and ideas are translated into innovative products, services, and ideas.

## Key Idea: Creative group process

### Key Idea

Innovation is the end result of a creative group process that progresses through several stages.

**Preparation** involves selecting group members to maximize creativity.

In the **innovation opportunity** stage, group members identify the problem requiring creativity.

Next is the **generation of options** stage, which involves promoting divergent thinking.

Then the group moves into the **incubation** stage, when they take time to consider options.

Finally, the group progresses to **convergence** on one option, when they move from many options to one innovation or innovative idea.

The creative process is not as linear as these stages might suggest, but each phase is vital to group creativity. As a manager, it's important that you ensure your group's progression through each stage.

Sometimes, ideas come in flashes of inspiration. More often, though, they come as a result of a deliberate process. Knowing this process is a key part of managing a creative group.

## Leadership Insight: Harnessing creativity

There are two fundamental challenges in any kind of innovation process. The first challenge is you have to generate lots of ideas. Innovation, to some degree, is a numbers game. You make lots of ideas about the problem you're trying to solve. And then once you get a lot of ideas, you then need to figure out a way to then winnow them down and pick the right one. And what we've seen in many firms has been that the generation function tends to be fairly limited. They might have five — maybe ten people at the most — working on a problem and trying to come up with various ideas to solve that problem. And then selection often also is very limited. They

might get one or two people in the end to make the call and say, "Yeah, we have a business case for this, and let's go with this."

What we've seen emerge in the last five years have been new models on how to tackle these problems as well. And the way companies have done this is to completely rethink who gets to suggest ideas and who gets to select ideas.

One of the great examples of this is a company called Threadless. Now, they're in a very mundane business of making T-shirts. But what they've done is that they have basically created a system where anybody in the world in their community of over half a million users can submit ideas for T-shirt designs. So they get close to 800 T-shirt designs per week. And this drives the engine. They don't have any internal developers at all. Everything is being done by their community members. So they get a lot of different ideas coming through.

But then, what they've also been smart about is that they've also asked their community members to rate these ideas and to help them select the best ones as well. So now what you've done is that you have created a distributed system where idea generation is in the community of users around your company, and they have built a ton of infrastructure around how to encourage people to submit ideas.

But then also idea selection, a very important part of the innovation process, is also now being done by these users. And these users not only select the ideas, but they also give a demand signal. They'll say, "I'll actually buy this thing."

So now what has been a small-numbers game in most firms has been turned inside-out, where people from anywhere in the world can come in and submit ideas, and people from anywhere in the world can select ideas and also get the demand signal. So what we thought were fundamentally functions within the firm — i.e., who generates ideas, and who selects ideas — can now be turned inside-out and be sent to users.

By actively involving the customer, organizations can give momentum to the innovation process.

**Karim Lakhani**

**Assistant Professor, Harvard Business School**

Karim Lakhani is an assistant professor in the Technology and Operations Management unit at Harvard Business School. His research focuses on distributed innovation systems and the movement of innovative activity to the edges of organizations and communities. He has extensively studied the emergence of open source software communities and their unique innovation and product development strategies.

Karim previously worked for General Electric Medical Systems as a member of its Technical Leadership Program. He also worked as a consultant for The Boston Consulting Group. He is the co-editor of "Perspectives on Free and Open Source Software" and cofounder of the MIT-based Open Source Research Community and Web portal.

His research has been published in journals such as Research Policy, Organization Science, Sloan Management Review, and Harvard Business



Review. The New York Times, Wall Street Journal, BusinessWeek, Inc., NPR, and other media organizations, have covered his research findings.

He earned his bachelor's degree in electrical engineering and management from McMaster University in Canada. Karim holds a doctorate in management and a master's in technology and policy, both from MIT.

## Identify opportunities

Most successful innovation is the result of a conscious, purposeful search. Some areas represent more fertile ground than others. Inside a company, such opportunities include:

- Unexpected occurrences, such as the loss of an overseas factory because of political upheaval
- Incongruities—for example, the need to rethink corporate strategy in the wake of a merger
- Process needs, such as the need to create separate distribution channels for a new line of products
- Industry and market changes

Opportunities generated outside the company include:

- Demographic changes—for example, a shift in consumer demand for leisure activities in accordance with the aging of the population
- Changes in perception, such as the strengthening of a company's brand equity
- New knowledge—for example, the advent of a new technology that cuts production costs in half
- The need to provide new products or services

Looking for an area in which to concentrate your creative efforts? Use these categories to help you make that assessment. Another approach is to make of list of all the aspects of the company's operations that require special knowledge or expertise, and concentrate your efforts there.

## Paradoxical tendencies

The creative group exhibits paradoxical characteristics. This chart shows tendencies of thought and action that appear to be mutually exclusive or contradictory, but which somehow manage to exist side by side. For example, to do its best work, your group needs deep knowledge of the subjects relevant to the problem it's trying to solve, and a mastery of the processes involved. But at the same time, your group needs fresh perspectives that are unencumbered by the prevailing wisdom or established ways of doing things. (Often called a "beginner's mind," this is the perspective of a newcomer: someone who is curious, even playful, and willing to ask anything—because he doesn't know what he doesn't know.)

## Activity: Formulate the perfect creative team

Determine the ideal mix of traits in a creative group.

As you build an optimal creative team, what combination of team member characteristics would be most effective? Choose the best mix below.

☐ 80% Beginner's mind, 20% Experience

80% Freedom, 20% Discipline

80% Play, 20% Professionalism

80% Improvisation, 20% Planning

**Not the best choice.** This team is out of balance. Having more members with a beginner's mind, a sense of freedom, a preference for play and improvisation may bring new ideas, but the ideas may not be practical or easily implemented without experienced team members who are disciplined, professional, and skilled at planning.

☐ 80% Beginner's mind, 20% Experience

80% Freedom, 20% Discipline

20% Play, 80% Professionalism

20% Improvisation, 80% Planning

**Not the best choice.** This team is out of balance. Your team must work within the confines of real business needs—and in alignment with your company's strategy, so you need more members who are experienced and disciplined. On the other hand, since this team is skewed toward professionalism and planning, they may miss the out-of-the-box ideas that come from members who are able to improvise and play.

☐ 50% Beginner's mind, 50% Experience

50% Freedom, 50% Discipline

50% Play, 50% Professionalism

50% Improvisation, 50% Planning

**Correct choice.** Creative groups need a balance of these characteristics to create the optimal setting for innovation.

☐ 20% Beginner's mind, 80% Experience

20% Freedom, 80% Discipline

20% Play, 80% Professionalism

20% Improvisation, 80% Planning

**Not the best choice.** This team is out of balance. Your team must work within the confines of real business needs—and in alignment with your company's strategy, so it is helpful to have members who are professional, experienced, and are skilled at planning. But it also needs latitude—some degree of freedom to determine how it will achieve the strategy and address the business needs. Adding members from the other side of the spectrum would achieve this.

## Key Idea: The value of creative groups

### Key Idea

The characteristics that are necessary for creative work seem contradictory, and they rarely exist in one person. That's one reason why teams are increasingly important in today's economy: they ensure a level of creative output that is greater than what individuals working alone could achieve. But in order to achieve that kind of output, you have to carefully examine the

composition of your group. You need to make sure that your group, as a whole, has all the requisite skills and attributes that help a group produce creative ideas.

Teams ensure a level of creative output that is greater than what any individual could achieve.

## Key Idea: Intellectual diversity

### Key Idea

The key ingredient here is **intellectual diversity**. You need people with different areas of expertise and deep knowledge in different disciplines, but you also need people with different thinking styles. Here, it's important to understand that intellectual diversity is not the same thing as ethnic and gender diversity. Ethnic and gender diversity can often enhance your group's variety of thought, but they don't guarantee it. You can't assume that people of the same gender or ethnic group will think alike—or that people of different groups think differently. So even as you consider the ethnic and gender representation of your group, focus on preferred thinking styles, functional specialties, and the particular skills that influence how a person approaches a problem.

While ethnic and gender diversity are important, strive to have intellectual diversity represented in your group.

## Preferred thinking styles

“ It requires a very unusual mind to undertake the obvious. ”  
–Alfred North Whitehead

What is a preferred thinking style? It's the essentially unconscious way a person looks at and interacts with the world. When faced with a problem or dilemma, a person will usually approach it by thinking in the way she is most comfortable. And although each style has particular advantages, no one style is better than another.

There are many different ways to describe how people think and make decisions. For the purposes of ensuring that your group has all the characteristics necessary for creative work, what's most important is that you develop the ability to recognize and describe different thinking styles.

## Myers-Briggs Type Indicator

The Myers-Briggs Type Indicator breaks down thinking preferences into four categories, with two opposite tendencies in each category.

### Opposing Myers-Briggs Types



<b>Extroverted:</b> These people look to other people as the primary means of processing information.	<b>Introverted:</b> These people tend to process information internally first before presenting the results to others.
<b>Sensing:</b> These people tend to prefer hard data, concrete facts—information that is closely tied to the five senses.	<b>Intuitive:</b> These people are more comfortable with ideas and concepts, with the "big picture."
<b>Thinking:</b> These people prefer logical processes and orderly ways of approaching problems.	<b>Feeling:</b> These people are more attuned to emotional cues; they are more likely to make decisions based on the values or relationships involved.
<b>Judging:</b> These people tend to prefer closure—they like having all the loose ends tied up.	<b>Perceiving:</b> These people like things more open; they tend to be more comfortable with ambiguity and often want to collect still more data before reaching a decision.

Don't get hung up on the actual word used to describe a particular tendency. Everyone exhibits all eight of these tendencies, but they do it in varying degrees. For example, it's not that a feeling person is incapable of logical thought—rather, it's that his or her thinking about a decision tends to be guided by the emotional impact of that decision on key relationships.

Start with yourself: how would you characterize your own thinking style? Knowing your own preferences helps you appreciate other thinking styles—you begin to understand how different perspectives can complement or round out your own. You may be particularly good at generating unusual ideas. But for those ideas to lead to something productive, your team will also need people with strong analytical skills who can assess whether your novel ideas fit the criteria that your customers require. In addition, your team will need people with the practical intelligence necessary for translating your idea into a product or service.

When different thinking styles rub against each other, creative sparks fly. That's the insight behind the phrase **creative abrasion**.

## Make creative sparks fly



An intellectually diverse group thinks more creatively and is more likely to generate innovative solutions. You can't make people adopt a different thinking style, but you can orchestrate thinking styles in such a way that your group's output benefits from the different perspectives.

How do you get creative abrasion? You import creative diversity from the outside, or you build your internal capacity for it.

## Assess team diversity

Consider yourself lucky if you have the opportunity to compose your team from scratch. The more likely scenario is that you're assigned a team to lead, and the membership has already been determined. Once you've assessed how the thinking styles of your team members complement (or duplicate) your own, you'll have a pretty good feel for whether any gaps exist. If the team lacks vital skills or expertise, you're going to have to look outside your group to find what you need.

## Activity: Got diversity?

Is your group composed of people with similar thinking styles and skills?

Answer each of the following five questions "yes" or "no." Record your answers manually as you go.

1. Group members seem reluctant to disagree with each other.
2. Your group needs more radical innovations than they are currently generating.
3. The group has been working together for more than three years.
4. Group members tend to agree rapidly on what to do.
5. You suspect that there are minority opinions in the group that are not being heard.

Select your tally.

☐ Four or five "yes" answers

Your result shows your team could benefit from greater intellectual diversity. Diverse groups think more creatively and are more likely to generate innovative solutions. Look for opportunities to provide your group with outside stimulation. Are there people with different thinking styles or skills in your organization who could temporarily take part in the work of your team? You might also want to offer training to encourage team members to question each other's assumptions and to listen to each others' points of view. Also, if you have the opportunity to hire more team members, look for people whose intellectual perspectives complement your existing team's preferred styles and skills.

☐ Two or three "yes" answers

Your result shows your team is not as intellectually diverse as it could be. Diverse groups think more creatively and are more likely to generate innovative solutions. Look for opportunities to provide your group with outside stimulation. For example, you might bring in some guest speakers, or plan field trips to other organizations. Also, consider asking people with different thinking styles or skills in your organization to temporarily take part in the work of your team.

☐ Zero or one "yes" answers

Your result shows strong intellectual diversity at present. Your group likely has complementary thinking styles and skills, which allow them to think more creatively and generate innovative solutions. However, stay alert to future indications that your team members may need some outside stimulation.

## Import intellectual diversity

“ When all men think alike, no one thinks very much. ”  
—Walter Lippmann

First, look elsewhere within your organization. Are there people with different thinking styles or skills who could temporarily take part in the work of your team? If not, you'll need to go outside your organization—and maybe outside your industry.

When engineers working at a ceramics manufacturer were having difficulty getting the ceramics to release from their molds, they realized that their problem had to do with quick-freezing, not with ceramics. So instead of seeking out other ceramics experts, they turned to the experts in quick-freezing: the food industry.

Other suggestions for sparking your group's creativity: guest speakers, interns, even field trips to other organizations.

## Leadership Insight: The innovation value chain

Well, I'm really fortunate to first of all to work for Google. I absolutely love working there, and it's full of smart people — lots of energy and tremendously inquisitive and trying to figure out new ways of doing things and lots of information. And one of the challenges for any organization when it comes to innovation, certainly across my career in Google, is how do you approach a situation where you want to implement a program that is panregional or pandepartmental, for example, without actually killing the innovation of folks who are working in the field figuring out some of the problems you are trying to figure out already?

So, you've got two paths you can follow. You can follow a path that means this is the way we are going to do things and this is the new system, etc., and kind of disenfranchise those people — and by doing that you are killing that innovation. You are killing that creative spirit that they themselves have.

It's really important you hold on to that because if you take the other path, which is to say, "Let me see what you are doing. Can you educate me? Can you show me? How can we embrace what it is you do into what it is we are trying to make sure everybody can do by creating something that's accessible to everybody without restricting the information?" particularly at a marketing setting or a sales setting, where you want to make sure information is not just held by one particular person.

So, the lesson for me when I look back at my career, when I compare it with Google, maybe my previous life just before Google, is that it may take a little bit longer to get a plan together for what something might look like, but that plan will be far richer and more robust if you spent the time to sit with people who eventually will become your champions.

They will be the people who show everybody else how to use it. They will be the people who come up with new ideas, and before you know, it will be on version two, version three, version four, version five, and those folks will have moved up. You can call it the value chain. They are no longer trying to figure out problems. They are helping people solve new problems and coming up with new ways of doing things.

So that will be my biggest lesson. It was a big eye-opener, particularly in the last three or four years — to actually take the time to sit with people because they genuinely want to help you.

How do you innovate across departments or regions? Involve the people who will implement the innovation in the early planning stages.

**Adrian Beggan**  
**Director, Sales and Marketing Intelligence, Google**

Adrian Beggan is a Director of Sales and Market Intelligence for Google Inc. based in Dublin, Ireland. In his role at Google, he leads the design, development, and implementation of the Global Sales and Market Intelligence platform.

Prior to his time at Google, Adrian was Director of EMEA Business Intelligence for Dell Inc. His seven years at Dell culminated in establishing EMEA as the global template for the marketing database and business intelligence function.



Adrian began his marketing career at Guinness Ireland Group where he worked as a marketing analyst and implemented a national customer database for Guinness Clothing and Merchandising.

Adrian received his Bachelor of Science in management science from Trinity College Dublin and his Master of Business Administration from University College Dublin. He also attended Harvard Business School's High Potential Leadership Program, and is working towards a Master of Science in Economics at Trinity College Dublin.

## Hire for creative abrasion

On those occasions when you are able to hire new employees, take full advantage of the opportunity:

- Look for people whose intellectual perspectives complement (but don't duplicate) your own preferred styles and skills, as well as those of your group.
- Look for a balance of expertise and personal characteristics (such as initiative, ability to get along with others, etc.) in each new hire.
- Look for people who are able and willing to work across functional boundaries.
- When you set specific hiring criteria, put a premium on increasing your group's intellectual diversity and finding necessary skills that the group currently lacks. Don't simply list a standard set of skills.

Also consider exploring nontraditional hiring channels (channels other than your company's human resources department). For example:

- Consider interns who've spent a summer or semester with your company.
- Ask colleagues for referrals.
- Ask friends outside your industry to be on the lookout for people whose skill sets match your needs.

Remember: if your goal is to create change within the group, it won't be enough just to hire one person who has a different perspective. A lone hire soon feels isolated and becomes marginalized. For the different thinking styles to *make a difference*, you need to begin by hiring a critical mass of newcomers with fresh perspectives.

## Integrate team members



After hiring new team members, your work doesn't stop. It's up to you to take the initiative to ensure that new members are thoroughly integrated into the functioning of the team:

- Discuss with group members why it is valuable to have people with different perspectives and skills.
- Give the group some input into the hiring decisions.
- When someone with different perspectives or skills is brought on board, make sure that person has a mentor.
- Make sure that group members who represent different skills and perspectives will be able to demonstrate their value to the group—even if it's only in small ways at the outset.
- Meet regularly with new members to discuss their experience with the group.
- Make certain that a new member's role within the group's overall vision is very clear.
- Make sure that new people are included in social events.

## Key Idea: Manage creative conflict

### Key Idea

Make no mistake about it: intellectual diversity does have its hazards. When you put different thinking styles together on one team, the result will not be unbroken harmony—nor would you want it to be. Expect to have disagreements and clashes—that way, you won't be surprised when they occur. But you must be vigilant nonetheless, constantly asking yourself if the conflict is creative or not.

For creative abrasion to work, you have to maintain a dynamic equilibrium. You want to foster **substantive conflict**—that is, the kind of abrasion that gets team members interacting. You want your team members to listen to each other's points of view and question each other's assumptions.

At the same time, you must prevent the conflict from becoming personal, or else the group will splinter and productivity will suffer.

In a creative team, conflict can be a good thing: it sharpens ideas and increases the energy of the discussion. You must learn to distinguish between positive and negative creative conflict.

## Leadership Insight: You can't go it alone

Over the years, my field of study has been entrepreneurship. I've worked in a lot of companies and been on a lot of boards — probably 30, 35 boards over the years. Everybody wants to be an entrepreneur. There's a great glory in it now. When I was a student, nobody even used the word "entrepreneurship." And I can remember one of my senior colleagues telling me the purpose of business school was to replace the entrepreneurs. But in fact now this is so important in life.

But when you ask yourself, 'How do I survive as an entrepreneur inside the company?' – I don't know. But I do know you can kill entrepreneurship in any organization.

The first thing is, you maximize competition. You need people to work together. If you think of the purpose of business, it's to accomplish things through a group of people that no individuals can accomplish by themselves.

The second thing is, many people who are starting a business, they think they know the answer. So you tightly control all the initiatives. That will never work. More brains are always better than only one brain — although not everyone agrees with that.

A third thing that people often do is they say, "Let's punish failure severely. We only want successful people." If you've gotten to my age and haven't failed at a few things, you probably have not tried. And punishing failure within organizations simply says to your best people, "Take on the safest problem."

Now one of the things, if you're trying to create organizations in the company that are going to succeed, the company's going to get the reward. So you don't want to asymmetrically say, "We win if you win, and you lose if you lose." You really need to make sure that people understand that failure is a possibility, and they know in advance how you're going to deal with it.

The fourth thing is dancing to the Wall Street tune: maximizing short-term profits. We all know how you can cut costs, it's the story of the farmer whose horse was eating too much and he thought he could train the horse to eat less. So he just gave him a little less food every day, and when he got him down to eating practically nothing, the damn thing up and died. And in fact, trying to maximize short-term profits often means you're not investing.

And of course the last thing you can do to kill entrepreneurship is real easy. Make sure you make all the important decisions.

These kinds of things, if you're trying to build a business within a business, you can't model yourself on the "I can do it all by myself" entrepreneur. First, very few of them succeed either. You really need to understand you're building a team whose purpose is to serve your customer at a profit.

Building a business within a business is a team process.

### **Howard H. Stevenson**

#### **Senior Associate Dean, Harvard Business School**

Howard H. Stevenson is Sarofim-Rock Baker Foundation Professor, Senior Associate Dean, Director of Publishing, and Chair of the Harvard Business Publishing Company board. The Sarofim-Rock Chair was established in 1982 to provide a continuing base for research and teaching in the field of entrepreneurship.

Previously, he served as the Vice Provost for Harvard University Resources and Planning and as Senior Associate Provost. He was also the Senior Associate Dean and Director of External Relations at Harvard Business School from 2001 to 2005. Professor Stevenson was a founder and the first President of the Baupost Group, Inc. which manages partnerships investing in liquid securities for wealthy families.

He has authored, edited, or co-authored 11 books and 42 articles. Some of his co-authored titles include "New Business Ventures and the Entrepreneur" with Michael J. Roberts and H. Irving Grousbeck; "Policy

Formulation and Administration" with C.R. Christensen, N. Berg and M. Salter; and "The Entrepreneurial Venture" with William Sahlman. His scholarly papers have appeared in publications such as Sloan Management Review, Harvard Business Review, Real Estate Review, and Journal of Business Venturing.

He received his Bachelor of Science in mathematics from Stanford University, and both his Master of Business Administration and Doctor of Business Administration degrees from Harvard University.

## Establish group norms

Group norms won't prevent all conflict from happening, but they are very useful to turn to when there is strife. Being able to refer team members back to the agreed-upon ways of behaving can help you restore a sense of team identity, and turn conflict into something substantive and productive.

What should your group's operating guidelines be? That depends on the purpose of the group and the personalities of its members. But certainly any effective set of norms should be clear and concise. They should also include the basics: respect for all members of the group, a commitment to active listening, and an understanding about how to voice concerns and handle conflict.

To guarantee the free flow of ideas, some groups may want to go further—for example, making explicit that anyone is entitled to disagree with anyone else. They may also want to adopt specific guidelines that:

- Support calculated risk taking
- Establish procedures about acknowledging and handling failure
- Foster individual expression
- Encourage a playful attitude

Whatever principles your group decides upon, make sure all the members participate in establishing them—and that everyone is willing to abide by them.

## Learn from failure

Failure can be useful if it is "intelligent failure." However, this does not mean simply learning from mistakes or making the same mistakes over and over. For intelligent failure to take place, you must:

- Acknowledge that there is a risk and plan contingencies
- Keep management informed
- Assess and learn from any failures

## Promote group norms



Group norms are important for establishing a psychological climate that promotes creativity, but they will get you only so far. If you want team members to believe that the norms are for real, you have to back them up with the following:

- **Your concrete actions as a manager**—how you respond to events and to what your team members say and do. What you say you value most highly and how you actually respond to the course of events can often be two very different things. To make sure there is no dissonance between these two, ask team members to fill out anonymous evaluation forms from time to time, in which they assess whether your behavior fosters free-flowing communication, a willingness to take risks, and an ability to acknowledge and examine failure. Moreover, don't underestimate the importance of direction and feedback. Research indicates that a cogent explanation of employee responsibilities and clear, frequent feedback from supervisors are among the most powerful motivational elements of a manager's tool kit.
- **The reward system**—your company's compensation plan, plus any additional incentives and means of recognition that you set up.

## Establish a reward system

Creativity will not flourish without a reward system that encourages individuals to stretch their ideas, to try totally new approaches, and to push beyond the bounds of normal work processes. Creative energy is a limited resource and must be replenished—not just at the end of the creative process, but throughout the project's life cycle. An exhausted or discouraged group cannot maintain their creativity. Rewards serve to rejuvenate and refresh creative energy.

There are many mechanisms for helping people feel motivated and energized to work creatively. Rewards can be based on:

- **Recognition**—for example, acknowledging an individual or group with a plaque or public announcement
- **Control**—allowing an individual or group to participate in making a decision or choice that affects them, or giving a group the resources it needs to carry out a project
- **Celebration**—for example, acknowledging a successful new-product launch by throwing a party
- **Rejuvenation**—providing time off or away from the task

## How rewards motivate



Another way to think about rewards is in terms of *how* they motivate. A reward can either be:

- **Intrinsic**—something that appeals to a person's desire for self-actualization or challenge, to her deep interest and involvement in the work, or to her curiosity or sense of enjoyment; or
- **Extrinsic**—something that appeals to a person's desire to attain a goal that is distinct from the work itself. Examples can include incentive pay, a luxury vacation given as a reward for generating the most sales, or special recognition for winning a competition or meeting an important deadline

In any effective reward system, these two sources of motivation work hand in hand. Especially where the work is not routine, you need to rely on the power of intrinsic motivation to generate creative thought. In other words, you must make sure that any rewards or incentives you establish don't become more important than the work itself, thereby undermining team members' intrinsic motivation. But at the same time, don't underestimate the power of money, recognition, or other incentives to bolster a group member's self-esteem, and thus enhance his intrinsic motivation. They can also give a team the freedom to attempt experiments or to take risks that it wouldn't have had the means to do otherwise.

Obviously, it's highly unlikely that you'll have the leeway to create a compensation plan for your team—but there probably are areas where you have the power to tweak the existing system to better suit your team's situation. Some questions you may want to consider:

- Does the group need special incentives, different from the larger reward system of the organization as a whole?
- If you cannot change the formal reward structure of your group, what informal awards can you design and distribute?

## Promote play



Physical surroundings can have an enormous impact on creativity. When an environment is filled with many types of stimuli, it sends the message "think differently." It encourages people to make new connections and to think more broadly.

Truly creative environments are notable for the variety of art, toys, and reading material they contain. For example, a software company might include illustrated books about architectural design along with technical reading in the employees' lounge. Another company might sprinkle wind-up toys or 3-D gadgets throughout the workspace.

Encouraging a playful attitude is especially important, because it helps people fully express their individuality and so enhances the quality of the group's creative output. Play serves a serious function: when employees are taking a play break, their work problems are incubating. The conscious mind takes a break from the problem at hand and then is able to return refreshed—perhaps with a new approach or a unique solution.

## Encourage reflection

“ The workplace itself is alive with the unexpected; when employees interact with it, it yields provocations no one can possibly expect. ”

–Alan Robinson and Sam Stern

Creative environments don't just provide casual and playful spaces—they also provide areas where employees can be quiet and reflective. The goal is to open up the range of emotional responses people experience at work—quite a contrast from the traditional, "buttoned-down" approach to the work environment.

## Improve the environment

“ The world is but a canvas to the imagination. ”

–Henry David Thoreau

You may not be able to design your workspace from the ground up, but there are valuable—and relatively inexpensive—steps you can take to enhance your team's physical surroundings. As you consider your options, keep the following questions in mind:

- **How might you encourage casual conversations that lead to creative ideas?**

Conversations and spontaneous meetings often occur in public areas such as mailrooms, kitchens, or around water coolers. Are these areas centrally located? Do you have comfortable, informal gathering places? One company designed staircases wide enough for people to stop and chat. Another placed beanbag chairs in conference rooms to create a more casual atmosphere.

- **What tools might you supply to encourage better communication?**

Some companies place whiteboards and flip charts in informal meeting spaces—for example, the kitchen—and not just in conference rooms. This allows people to sketch out their ideas during a spontaneous discussion. Other companies spread crayons and white paper on conference room tables to encourage doodling and diagramming ideas—enabling a mode of thought that is quite different from verbal discussion.



- **What types of media do team members respond to?**

One person may find a lively discussion the most effective means of generating new ideas. Another may prefer the time and quiet afforded by e-mail communication. Still another may respond best to visual imagery. Including nontraditional communication tools helps you capture the creative potential of all the members of your group.

## Generating options



All stages in the creative group process are critical to innovation. However, two of the stages are more complex and warrant further explanation: divergence and convergence.

Innovative ideas and products result from the application of **divergent thinking**. Especially if your group is charged with tasks that are not routine, it will need to be able "to think outside the box."

Such thinking consists of:

- Seeing connections among facts or events that others have missed
- Asking questions that haven't been asked before
- Asking questions from different perspectives

The goal of divergent thinking is to generate—and to generate quickly—a wide variety of options. (From the list you generate, you select the best options to pursue further—this is the convergent part of the innovation process.)

## Brainstorming principles

“ Creativity involves breaking out of established patterns in order to look at things in a different way. ”  
—Edward de Bono

A particularly useful tool for stimulating divergent thought is brainstorming. Brainstorming builds:

- **Fluency**, your ability to produce many original ideas easily
- **Flexibility**, your ability to come up with many different kinds of ideas

For a brainstorming exercise to succeed, it's crucial to observe four key principles:

- Focus the brainstorming on an actual problem that your group is trying to solve. In other words, your brainstorming should be bound by real-world constraints.

- Judgment should be suspended while ideas are being generated. Even the wildest ideas are to be encouraged because the quantity of ideas affects the quality of the final decision.
- Limit the discussion to one conversation at a time and keep it focused on the topic.
- Try to build on the ideas of others whenever possible.

## Four brainstorming techniques



Brainstorming techniques fall into four broad categories: visioning, exploring, modifying, and experimenting. Each category uses a different thought process, but there are some commonalities. Modifying and experimenting techniques, for example, start with existing data and use intuition to draw ideas from those facts. With visioning and exploring techniques, the intuitive process is followed by information gathering and data analysis.

### Visioning

This approach asks you to imagine, in detail, a long-term, ideal solution as well the means of achieving it. The idea is to break free of the ingrained practicality that inhibits innovative thought.

Begin by ignoring constraints: if money, time, and resources were no object, what ideas would produce the ideal future?

For example, if your consulting company could provide any services, which services would you choose?

As you try to imagine the ideal future, follow what intrigues you—a breakthrough idea often comes from a seemingly irrelevant place. The following are three strategies to help people on your team imagine an ideal future:



1. **Wish List:** Ask your team members to "let themselves go" and imagine an ideal situation where they would be granted any wish they wanted. Encourage everyone to review their lists: what did they discover about themselves or the situation?
2. **The Ideal Scenario:** Ask the group to imagine what the ideal solution would look like. This can be done with words or images. For example, participants could pore over magazines, select images, and paste them together in a collage. Follow the creation with discussion and exploration.
3. **Time Machine:** Ask participants to pretend that they can time travel to 5-7 years from now. What would the situation look like then? What would have been accomplished? Add whatever questions are relevant to the creative challenge being explored.

Once you've generated several ideas that would constitute an ideal future, ask what it would take to make those ideas happen. How would you actually bring about the ideas you've envisioned?

## Exploring

These strategies often use guided imagery—symbols, analogies, and metaphors—to describe an ideal scenario as well as to challenge assumptions.



If your group is trying to create truly innovative customer service, for example, you could ask: if customer service were music, what music comes to mind when you think of best-practice customer service? Or, what are the feelings that you want your ideal level of service to generate in customers—and what are the sensory images that come to mind when you envision that service?

A variation of this method is to take the assumptions you've been working under and literally reverse them—the new possibilities that emerge are often fruitful. A related approach, called paradoxical thinking, helps free your mind from conventional patterns by developing an awareness of opposites.

## Modifying

Whereas visioning techniques begin by assuming that there are no constraints, modifying techniques begin with the status quo—with current technology or conditions—and seek to make adaptations. One great way to see how to modify or adapt your current product or service is to try to look at it as though you were a customer. For example, if you work at a design software company, try to envision yourself as a designer who wants a new program. What features or functionality would you like the program to include?

## Experimenting

These methodologies help you systematically combine elements in various ways and then test the combinations. One such approach involves creating a matrix. For example, a car-wash owner in search of a new market or market extension would begin by listing parameters across the top: method, products washed, equipment, and products sold; under each parameter, he lists all the possible variations he can think of. Under the equipment category, the variations might include sprays, conveyors, stalls, dryers, and brushes; the products washed category might include cars, houses, clothes, and dogs. The resulting table allows him to put together new business possibilities using alternatives listed under the columns. Thus, he might decide to start a service for pet owners to wash their dogs by using stalls and brushes.

## Leadership Insight: Position for future markets

So very early on when I was at Qualcomm, a bunch of engineers went to our CEO and said, “Hey, look; we have got this great idea for a new phone.”

This phone was huge — it was bigger than anything anyone had ever seen. I know today we’re living with very small phones, but even at that time this was a very big phone.

Our CEO had said, “Well, there’s not really a customer for that.” But the engineers thought it was really, really cool that they were able to create this phone that had a lot of functionality in it and [there was] really a lot of innovation was enclosed inside the phone.

Even though there were no customers for it, our CEO said, “Well, that’s incremental, that you guys were able to get to the next level and think through what we were going to be doing as a phone design, even though there isn’t a customer that would buy it.”

Interestingly, several years later, many of the ideas that went into that phone are being utilized today. So things like GPS, where you can track the position of where you are, was something that was thought about by our engineers in that phone design.

But many years ago that was not something that was interesting for customers, and the market didn’t realize they needed it.

So from an innovation standpoint, it’s always important to think five years and ten years out, and to be continuing to try to push that envelope even though there may not be a customer today. That’s how you get large innovation within organizations.

Innovations that may not benefit customers today could meet their needs tomorrow.

### **Tamar Elkeles**

#### **Vice President, Learning and Development, Qualcomm**

Tamar Elkeles is the Vice President and creator of the Learning Center at QUALCOMM, a telecommunications research and development company. The QUALCOMM Learning Center operates as an internal consulting function within the organization, providing business divisions with innovative solutions in learning, organizational development, and communications that impact business results.

Tamar has been featured in both Chief Learning Officer magazine and Training magazine for her leadership and contributions to the learning profession. In 2007 she coauthored the book “The Chief Learning Officer: Driving Value Within a Changing Organization Through Learning and Development.” Nationally, Tamar is a member of the Conference Board Council for Training, Development, and Education, as well as a member of the CLO magazine editorial board. She holds both a Master of Science and a doctorate in organizational psychology.

### **Activity: Pick the right brainstorming technique**

Different creativity challenges call for different brainstorming techniques. Choose the right technique for the particular challenge at hand.

You and your team want to “test what you know about the box.” That is, you want to combine different pieces of your knowledge and then test those combinations to generate creative ideas. What brainstorming technique would you use in this situation?

☐ Visioning

**Not the best choice.** Visioning is not about combining different pieces of information and then testing them for new business possibilities.

- ☐ Exploring

**Not the best choice.** Exploring is not about combining different pieces of information and then testing them for new business possibilities.

- ☐ Modifying

**Not the best choice.** Modifying is not about combining different pieces of information and then testing them for new business possibilities.

- ☐ Experimenting

**Correct choice.** Experimenting is about systematically combining information in various ways and then testing those combinations to see if they reveal valuable new business possibilities.

You and your team want to "break out of the box" in solving a problem. That is, you want to ignore practical concerns and constraints. Which brainstorming technique would you use?

- ☐ Visioning

**Correct choice.** Visioning is about ignoring constraints; for example, by imagining an ideal situation you would be granted if you could make any wish you wanted.

- ☐ Exploring

**Not the best choice.** Exploring is not about ignoring practical concerns and constraints.

- ☐ Modifying

**Not the best choice.** Modifying is not about ignoring practical concerns and constraints.

- ☐ Experimenting

**Not the best choice.** Experimenting is not about ignoring practical concerns and constraints.

You and your team want to "get into the box" to solve a problem. Put another way, you want to reverse the assumptions you've been working under. For example, instead of "You can't increase sales *and* profitability at the same time," reverse the assumption to "Sales and profitability *will* always increase at the same time." Which brainstorming technique would you use in this situation?

- ☐ Visioning

**Not the best choice.** Visioning is not about reversing assumptions.

- ☐ Exploring

**Correct choice.** Exploring is about reversing assumptions so you can see business challenges in a new light.

- ☐ Modifying

**Not the best choice.** Modifying is not about reversing assumptions.

- ☐ Experimenting

**Not the best choice.** Experimenting is not about reversing assumptions.

You and your team want to "be bigger than the box." In other words, you want to look at current conditions and consider how you might improve on them. What brainstorming technique would you use in this situation?

- ☐ Visioning

**Not the best choice.** Visioning is not about starting with the status quo and seeking to make adaptations to it.

- ☐ Exploring

**Not the best choice.** Exploring is not about starting with the status quo and seeking to make adaptations to it.

- ☐ Modifying

**Correct choice.** Modifying is about beginning with the status quo and thinking about how you might make adaptations to it in order to generate valuable new products or services.

- ☐ Experimenting

**Not the best choice.** Experimenting is not about starting with the status quo and seeking to make adaptations to it.

## Selecting options



At various points in the life of a project, the fruits of divergent thinking must be harvested and put to use. In moving from divergent to convergent thinking, a team stops emphasizing what is novel and starts emphasizing what is useful. The work of convergence involves setting limits—narrowing the field of solutions using a given set of constraints.

## Narrowing

And how do you determine those constraints? The culture, mission, priorities, and high-level concept of your company and project all contribute to the answer. They help you rule out options by identifying potential solutions that lie beyond the scope of your project.

Helpful questions to ask your team once it has generated a range of possible solutions to a problem include the following:

- What functions are essential (from your customers' point of view) and what are "nice-to-haves"?
- What criteria are determined by the company's values?
- What are your cost constraints?
- What are your size or shape constraints (for a product)?
- Within what time must you complete the project?
- In what ways must the product or service be compatible with existing products or services?

## Starting convergence activities



When the problem to be solved is well understood or fairly routine, your group may not need to devote much time to divergent thinking. When time is not an issue, you may want to devote more time to divergent activities than you otherwise would. For general creative problem solving, however, the time spent on convergent thinking should more or less equal the time spent on divergent thinking.

## Overview

This section provides interactive exercises so you can practice what you've learned. These exercises are self-checks only; your answers will not be used to evaluate your performance in the topic.

### Scenario

Assume the role of a manager in a fictional situation and explore different outcomes based on your choices (5-10 minutes).

### Check Your Knowledge

Assess your understanding of key points by completing a 10-question quiz (10 minutes).

## Scenario: Part 1



## Part 1

Emily oversees the New Product Development group. The team is talented and has a solid history of working well together. Over the last year, business has been on an upswing. For once, Emily has a generous budget and a few open positions to fill.

Senior management's latest strategy places an emphasis on bringing innovative products to market fast. Emily knows that the success of her team will be measured by the quality of products they develop. The pressure is on to be innovative, original, and cutting-edge.

Emily has recently read about a term called "creative abrasion." For creative sparks to fly, she understands that she needs to enhance the creative potential of her group. She contemplates where to begin.

To enhance the creativity of her group, what step might Emily take next?

- Look for non-traditional, creative types to add to the group

**Not the best choice.**

It's a common misconception that creativity is reserved for a select few. A willingness to think in untraditional ways does play a role in creativity. But that doesn't mean that creative people are markedly different from everyone else. Emily should begin by analyzing the composition of her existing group and then looking for those who can complement the existing group.

- Make sure she includes young people who bring fresh ideas

**Not the best choice.**

Age is not a clear predictor of creative potential. To foster creativity, Emily needs to bring together a diverse group with a mix of skills and styles. Emily may decide to add youth to the overall mix of the group, but she shouldn't assume that young people are more creative than older individuals.

- Analyze the thinking styles and skills of her existing group

**Correct choice.**

Emily needs to start by analyzing the composition of her existing group. What mix of skills and thinking styles do the members of the team bring to the creative table? What is missing that might be added to the creative mix? The goal is to create a group with intellectual diversity. Intellectual diversity is not the same as ethnic or gender diversity. Intellectual diversity among individuals in a group means different skills, different areas of expertise, different thinking styles, and different ways of approaching problems.

## Scenario: Part 2

### Part 2

Emily begins by analyzing the composition of her existing group. The fact that they have a solid history of working well together makes her question whether they have enough intellectual diversity to foster "creative abrasion." After examining their thinking styles and skills, she finds a few gaps. Emily then looks for people, internally and externally, who can fill those gaps. She adds temporary team members who cross functional boundaries. She invites outsiders to attend meetings and creates a weekly lunch seminar with invited guests. Eventually, Emily gets results: different ways of approaching problems, plenty of ideas—and some strong disagreement.

Emily asks herself what she should do to manage this process. How might she further enhance creativity? How should she harness the creativity? Or should she?

What else might Emily do?

- Create a more casual physical setting by adding comfortable furniture and toys

#### Good choice.

Creating a more casual and playful physical setting can add to an environment that fosters creativity. Companies that specialize in innovation often invest in designing physical settings that encourage the exchange of ideas. The physical setting can be enhanced even with a low budget—by adding a casual grouping of comfortable chairs, unusual magazines, engaging toys, or even a ping-pong table. When an environment is filled with many types of stimuli, it sends the message "think differently," and encourages people to make new connections and to think more broadly.

- Step back and let improvisation, play, and freedom drive the group

#### Not the best choice.

While improvisation, play, and freedom all play a part in the creative process, so do the seemingly contradictory characteristics of planning, professionalism, and discipline. Managing creativity involves a number of paradoxes, such as: improvisation within careful planning, playfulness within the bounds of professionalism, and freedom disciplined by the confines of real business needs.

- Establish group norms of acceptable behavior

#### Correct choice.

Emily should help the group establish clear principles that describe how they want to work together. A diverse group with different ways of approaching problems will likely foster creativity—and disagreement. Emily needs to make sure the group establishes a way to navigate through any disagreement. Group norms won't prevent conflict from happening, but they can help restore order and turn conflict into something more substantive and productive.

## Scenario: Part 3

### Part 3

Emily has built a haven for creativity and innovation. She introduces techniques that encourage people to brainstorm, explore, modify, and experiment. Most conflict is creative, but when it veers toward the more personal, Emily brings up the group norms.

The group flourishes—until it reaches a state of bountiful plenty. Now it feels like there are too many ideas and possibilities. Some ideas are both good and feasible. Others are downright risky. Emily senses that she needs to help the group move forward.

What else might Emily do?

- **Impose an appropriate set of constraints**

**Correct choice.**

Emily needs to help her group establish a set of constraints for narrowing their possibilities—and eventually making a choice. What are their constraints? Do they have a limited budget? Must they get their product to market before the end of the next fiscal year? How does the competition affect their choices?

- **Analyze each solution in terms of the marketability of the innovation, its potential cost to develop, and the time to get to market**

**Not the best choice.**

First, Emily's group needs to establish a set of constraints for narrowing their possibilities. Marketability, cost to develop, and time to market may—or may not—be included in the criteria, depending on the particular situation. A group determines its constraints by looking at a number of factors, such as the culture, mission, priorities, and the high-level concept of the company and the project.

- **Take a chance and go for the more risky solutions. This is, after all, innovation time!**

**Not the best choice.**

First, Emily's group needs to establish a set of constraints for narrowing their possibilities. Depending on the constraints, they may—or may not—decide on a risky solution. A set of constraints helps you rule out options by identifying potential solutions that lie beyond the scope of your project.

## Scenario: Conclusion

**Conclusion**

Emily led her group through a stage of divergence. She began by analyzing the composition of her existing group. Next, she added people that contributed to the group's overall intellectual diversity. Then she invited outsiders to bring different perspectives to the group. Finally, she promoted brainstorming and exploration of ideas, and encouraged the group to establish norms to help them navigate their differences.

Emily then led the group through a stage of convergence. She helped the group establish a set of constraints to narrow its options and finally make a decision.

Emily has successfully "managed" the creative process.

## Activity: Check Your Knowledge: Question 1

The process of evaluating ideas to determine which are worth pursuing is called:

- Divergent thinking

**Not the best choice.**

Divergent thinking is the process you would use to generate ideas. To evaluate different ideas or options to determine which are worth pursuing, you would use convergent thinking.

- Convergent thinking

**Correct choice.**

Convergent thinking is often an evaluative process whereby you review different options to determine which are worth pursuing.

- Innovation

**Not the best choice.**

Innovation is the outcome of creativity and manifests itself as the fresh changes that are implemented in products, processes, or services. To evaluate different ideas or options to

determine which are worth pursuing, you would use convergent thinking.

## Check Your Knowledge: Question 2

Which of the following statements are true? (A) Creativity is a talent, you either have it or you don't, (B) The creative process is basically a solitary pursuit, (C) The smarter you are, the more creative you are, or (D) Age is not a clear predictor of creativity.

- A and B

**Not the best choice.**

The beliefs that you're either creative or you're not and that the creative process is a solitary pursuit are common misconceptions about creativity. The only true statement is D, "Age is not a clear predictor of creativity."

- All of the above

**Not the best choice.**

Statements A, B, and C are all common misconceptions about creativity. The only true statement is D, "Age is not a clear predictor of creativity."

- D

**Correct choice.**

"Age is not a clear predictor of creativity" is the only true statement in the list; the other three statements represent common misconceptions about creativity.

## Check Your Knowledge: Question 3

Is the following statement true or false? Most innovations are the result of a conscious, purposeful search, not sudden illumination.

- True

**Correct choice.**

Most innovations are not so much the product of sudden insights as they are the result of a conscious process that often goes through multiple stages.

- False

**Not the best choice.**

The statement that most innovations are the result of a conscious, purposeful search and not sudden illumination is actually true. Illumination is more often one stage in a series of stages

through which innovation unfolds.

## Check Your Knowledge: Question 4

Creative groups often need to balance contradictory behaviors or characteristics to generate fresh ideas. Which of the following pairs of contradictory behaviors and characteristics does a group *not* need to balance in order to strengthen its creativity?

- Beginner's mind and experienced perspective

**Not the best choice.**

Creative groups *do* need to balance beginners' perspectives with more seasoned members' experience. Choice number 4—focus on process and focus on results—is the correct response. That's because while groups need to balance process (how they work together) with results (what they accomplish), this balancing is not unique to the creative functioning of groups.

- Freedom and discipline

**Not the best choice.**

Creative groups *do* need to balance freedom with discipline. Choice number 4—focus on process and focus on results—is the correct response. While groups need to balance process (how they work together) with results (what they accomplish), this balancing is not unique to the creative functioning of groups.

- Improvisation and planning

**Not the best choice.**

Creative groups *do* need to balance improvisation with planning. Choice number 4—focus on process and focus on results—is the correct response. That's because while groups need to balance process (how they work together) with results (what they accomplish), this balancing is not unique to the creative functioning of groups.

- Focus on process and focus on results

**Correct choice.**

While a group often needs to balance concern for process (how the group is working together) with concern for results, this balancing is not unique to a group's creative functioning.

- Play and professionalism

**Not the best choice.**

Creative groups *do* need to balance play with professionalism. Choice number 4—focus on process and focus on results—is the correct response. That's because while groups need to balance process (how they work together) with results (what they accomplish), this balancing is not unique to the creative functioning of groups.

## Check Your Knowledge: Question 5

Creative abrasion occurs when:

- Individuals' different thinking styles clash, forcing them to examine new ways of looking at an issue

**Correct choice.**

The creative abrasion created by individuals' different thinking styles can greatly enhance a group's creative potential if it is managed well.

- Individuals' thinking styles are compatible, allowing the group to develop new ideas quickly

**Not the best choice.**

When individuals' thinking styles are similar, they may actually have greater difficulty achieving breakthrough ideas. "Creative abrasion" is the potential for creativity that occurs when different individuals' thinking styles rub against each other. If it is well managed in a group, creative abrasion enhances the group's creative potential.

- Individuals in the group dislike each other

**Not the best choice.**

"Creative abrasion" is the potential for creativity that occurs when different individuals' thinking styles rub against each other. However, if this conflict becomes personal, the group will splinter and productivity will suffer. If it is well managed in a group, creative abrasion enhances the group's creative potential.

## Check Your Knowledge: Question 6

Intellectual diversity and different thinking styles can generate conflict in a group. This substantive conflict is the same as personal conflict. True or false?

- True

**Not the best choice.**

Substantive conflict and personal conflict are actually different. Substantive conflict occurs when members grapple with issues or tasks at hand; for example, two members of the group challenge each other's assumptions. By contrast, personal conflict has no relation to the tasks at hand.

- False

**Correct choice.**

Substantive conflict and personal conflict are actually different. Substantive conflict occurs when members grapple with issues or tasks at hand; for example, two members of the group challenge each other's assumptions. By contrast, personal conflict has no relation to the tasks at hand.



## Check Your Knowledge: Question 7

Rewards of various kinds can improve a group's creativity. Pay and bonuses are examples of rewards that tap into an individual's:

- **Extrinsic motivation**

**Correct choice.**

Pay and bonuses are extrinsic motivators: They appeal to a person's desire to attain a goal that is distinct from the work itself. But to encourage your group's creativity, you should augment extrinsic motivators with intrinsic motivators, such as challenging assignments. Intrinsic motivators appeal to a person's desire for self-actualization or challenge, deep interest and involvement in the work, or curiosity or sense of enjoyment.

- **Intrinsic motivation**

**Not the best choice.**

Intrinsic motivators, such as challenging assignments, appeal to a person's desire for self-actualization or challenge, deep interest and involvement in the work, or curiosity or sense of enjoyment. Pay and bonuses are examples of extrinsic motivators: They appeal to a person's desire to attain a goal that is distinct from the work itself. To encourage your group's creativity, you should augment extrinsic motivators with intrinsic motivators.

## Check Your Knowledge: Question 8

You're conducting a brainstorming session and participants are evaluating options and ideas as they generate them. Is this the best way to proceed?

- **Yes**

**Not the best choice.**

Evaluating options or ideas as they are generated is actually not the best way to proceed, because it can stifle creativity and slow down the group's brainstorming process.

- **No**

**Correct choice.**

Evaluating options or ideas as they are generated can stifle creativity and slow down the group's brainstorming process.

## Check Your Knowledge: Question 9

Three of the following techniques or strategies can be useful for brainstorming. Which one is not?

- Using guided imagery to describe an ideal scenario

**Not the best choice.**

Using guided imagery to describe an ideal scenario *is* a strategy or technique that could be used in brainstorming.

- Keeping constraints such as time and money in mind while trying to envision an ideal solution

**Correct choice.**

Keeping constraints such as time and money in mind while trying to envision an ideal solution is not a useful technique for brainstorming. Rather, individuals should try to break free of the ingrained practicality that inhibits innovative thought.

- Looking at ways to adapt the status quo, rather than invent from the beginning

**Not the best choice.**

Looking at ways to adapt the status quo, rather than invent from the beginning, *is* a strategy or technique that could be used in brainstorming.

- Systematically combining elements of a project or product in different ways and then testing these new combinations

**Not the best choice.**

Systematically combining elements of a project or product in different ways and then testing these new combinations *is* a strategy or technique that could be used in brainstorming.

## Check Your Knowledge: Question 10

A "moose on the table" is an expression describing an issue that a group is ignoring or avoiding and that could become a problem and impede progress. Which of the following is *not* something you would do to deal effectively with a "moose"?

- Stop what you are doing to acknowledge the issue.

**Not the best choice.**

Stopping what you are doing to acknowledge the issue *is* something you would do to deal effectively with a "moose on the table." The issue needs to be surfaced, discussed, and resolved promptly by the group. The one action in the list that's *not* advisable is to discuss the "moose" with a group member one-on-one outside the group.

- If the "moose" issue involves someone's behavior, discuss this one-on-one outside the group.

**Correct choice.**

Discussing a behavior-related issue *within* the group is an advisable strategy for dealing with a "moose on the table." The issue needs to be surfaced, discussed, and resolved in terms of the impact of the behavior on the group. During this discussion it is important to keep things impersonal. The point is not to assign blame—discuss *what* is impeding progress, not *who*.

- Encourage the person who identified the "moose" to be specific and use examples.

#### Not the best choice.

Encouraging the person who identified the "moose" to be specific and use examples *is* useful for dealing effectively with a "moose on the table." The issue needs to be surfaced, discussed, and resolved promptly within the group. The one action in the list that's *not* advisable is to discuss the "moose" with a group member one-on-one outside the group.

- Discuss *what* is impeding progress, not *who*.

#### Not the best choice.

Discussing *what's* impeding progress, not *who's* impeding progress, *is* a good strategy for dealing with a "moose on the table," because it helps the group surface, discuss, and resolve the issue without affixing blame to any specific individuals. The one action in the list that's *not* advisable is to discuss the "moose" with a group member one-on-one outside the group.

## Check Your Knowledge: Results

## Your score:

### Steps for fostering creative conflict: depersonalizing issues

#### 1. Grant legitimacy to others and assume the best about them.

- Assume others are trying to do the right thing.
- Assume that others may see things that you miss.
- Assume that you may see things that others miss.
- Assume that conflicting views are an important source of learning.

#### 2. Allow all parties to the conflict a chance to speak.

Without interruption, have all parties to the conflict:

- Describe the data on which they based their decisions (observations, reading, reports, etc.)
- Use their own words to describe what they saw or heard
- Explain their interpretations
- Explain why they decided on the action they took (or want to take)

#### 3. Seek to understand the differences between individuals.

For example, ask others to comment on the interpretation of data, and then identify alternative interpretations.

#### 4. Reconcile the various actions/decisions desired by taking into account all the data and interpretations uncovered.

## Steps for promoting creative conflict: surfacing unspoken issues

Use these steps to uncover hidden conflict and minimize its potential to derail creative collaboration.

### 1. Create a climate that makes people willing to discuss difficult issues.

As the manager, you need to help your team understand the concept of "a moose on the table" (a significant issue or problem that is impeding progress because it is being ignored by everyone). You also need to initiate a conversation about how the team should handle such unspoken issues—before a specific situation arises. Use this checklist to set the stage.

- Introduce the concept of a "moose on the table" when you are establishing your team principles.
- Legitimize the process of identifying a moose. Make it clear that you *want* issues to be pointed out—even though the subject may seem taboo, no one will be penalized for pointing out a moose.
- Also, make sure that all team members understand that *anyone* can point out a moose: pointing out an issue should not be limited to those of "higher" ranks.
- Encourage the use of humor—it helps prevent people from being defensive.

### 2. Facilitate the discussion.

How do you manage a moose once it has been identified? Use the following guidelines:

- If someone points out a moose, it is important to stop whatever you are doing, at least briefly, to acknowledge the issue. Even if you disagree that an issue exists, you must acknowledge that, to one person at least, a problem does exist. Otherwise, group members will not feel safe bringing up such issues.
- Refer back to your team principles. As a manager, it is your job to remind the team how you have agreed to treat each other.
- Encourage the person who identified the moose to be specific and use examples.
- Keep the discussion impersonal. The point is not to assign blame—discuss *what* is impeding progress, not *who*.
- If the issue involves someone's behavior, encourage the person who identified the problem to explain how the behavior affects him or her, rather than make assumptions about the motivation behind the behavior. For example, if someone is not completing work when he promised to, you might say, "When your work is not completed on time, the group is unable to meet their deadlines," not, "I know you are not really excited about this product."
- If someone is not providing necessary leadership, you might say, "When you don't provide us with any direction, we spend a lot of time trying to second guess you, and that makes us feel unproductive," not, "You don't seem to have any idea what we should be doing on this project."
- Discuss why the topic is taboo.

### 3. Move toward closure by discussing what can be done.

- Try to leave with some concrete suggestions for improvement—if not a solution—to the problem.
- If the subject is too sensitive and discussions are going nowhere, consider adjourning the meeting until a (specified) later date so that people can cool down. Or, consider bringing in a facilitator to help keep discussions on an impersonal level.

## Steps for enhancing your own creative potential

Use these steps to uncover hidden conflict and minimize its potential to derail creative collaboration.

**1. Strive for alignment.**

Make sure that the goals of the organization you work for are consonant with your most cherished values. Instead of considering jobs at which you excel, think instead about jobs that match your deeply embedded life interests.

**2. Pursue some self-initiated activity.**

Choose projects for which your intrinsic motivation is high. If you have always loved graphic design, try to determine why the packaging for one of your company's products leaves customers cold.

**3. Take advantage of unofficial activity.**

The absence of official status may create a safe haven for nurturing an idea until it is strong enough to overcome resistance.

**4. Be open to serendipity.**

Develop a bias toward action and toward trying new ideas. For instance, if an accident or failure occurs while you're prototyping a new LCD screen, don't dismiss it too quickly. Study it for the learning opportunity that may lie within. Each day, write down what surprised you and how you surprised others.

**5. Diversify your stimuli.**

Intellectual cross-pollination gets you thinking in new directions. Develop cross-functional skills: rotate into every job you are capable of doing. Get to know people who spark your imagination. Become a lifelong learner: take classes not related to your work. Bring your insights from outside interests or activities to bear on your workplace challenges.

**6. Create opportunities for informal communication.**

Take advantage of unanticipated opportunities to exchange ideas with colleagues. Creative thought often happens during spontaneous interactions between individuals. Such interactions, however, are only useful if real communication occurs. You must find ways to encourage and facilitate communication that is appropriate for the creative environment.

## Tips for providing outside stimulation for your group

- Bring in paid or unpaid interns, such as students, people seeking job transitions, etc.
- Bring in day visitors to participate in brainstorming or other activities with the group.
- Bring in temporary group members, such as people on sabbatical from other organizations or universities.
- Arrange reciprocal visits with other groups or organizations.
- Bring in a speaker to present a unique perspective or expertise. (Remember to look outside your industry or specialty.)
- Arrange a field trip to visit the site of a customer, a customer of one of your customers, or even a competitor.
- Arrange a field trip outside your industry to observe best practices—for example, an airline hoping to improve service might visit a clothing retailer known for its excellent service.
- Meet with independent inventors or entrepreneurs in your field.
- Surf the Web to view competitors' sites.

- Surf the Web to view how people in other industries are using the Web to fulfill the same functions you perform.
- Bring in consultants to provide different perspectives.
- Arrange workshops or training in needed skills or processes.

## Tips for enhancing the physical workspace to facilitate communication and interaction

- Put the kitchen and water cooler in a central location.
- Have a whiteboard or chalkboard that anyone can use in the kitchen and/or next to the water cooler.
- Have several comfortable, casual places for people to sit and chat.
- Have conference or meeting rooms easily accessible on short notice.
- Make the office space open, encouraging people to drop in on each other.
- Have a recognized and accepted signal that communicates when a person is working on a task that requires uninterrupted concentration (e.g., a sign on door, movable partition across cube entrance).
- Put whiteboards, chalkboards, or flip charts in every meeting room.
- Have at least one electronic whiteboard that you can print from.
- Have paper, crayons, and colored pencils available during brainstorming sessions.
- Encourage people to draw or doodle ideas during meetings.
- Have videoconferencing technology available to link up with people who are not in your office.
- Have e-mail as well as electronic discussion databases or threaded discussion capabilities to allow ongoing discussion of key issues and problems.

## Tips for motivating and rewarding creativity

- Ask a high-level executive to visit the team to express his/her appreciation of what the team is doing or to recognize the team's work.
- Give a reward for the craziest idea.
- Recognize a person who has worked outside his or her preferred style or function.
- Give a reward for collaboration.
- Give out small, visible symbols of recognition such as plaques, T-shirts, hats, toys, etc.
- Let team members choose which project they want to work on next.
- Celebrate a small success by taking the group out to dinner.
- Celebrate an interim deadline by taking off a half-day to go to a movie together.
- Send out an e-mail, memo, group voice mail, or announcement describing (visually, if possible) how much work the group has done (e.g., printing out a list of all the orders received so far).
- Send out an e-mail, memo, group voice mail, or announcement sharing positive feedback from outsiders, customers, or upper management about progress to date.
- Organize a project fair in which everyone is encouraged to visit other team members (or other teams) to see what they are currently working on.
- Give team members some time off, or extra vacation days.

## Tips for brainstorming sessions

- You may want to include some customers, noncustomers, or competitor's customers in the brainstorming session.

- Be sure to provide any supporting infrastructure needed—flip charts, a table covered in paper used for doodling and note taking, or even an electronic whiteboard.
- In coming up with possible solutions or ideas, be as concrete as possible. You may want to draw or represent some of the ideas visually.
- Don't assume that it's business as usual, that this problem or challenge is similar to ones that have come before.
- Set high aspirations—stretch goals for what you'd like your group to achieve.
- Don't fall in love with the first possible solution you create—generate as many ideas as you can before evaluating and prioritizing them.
- Remember: productive brainstorming sessions are the result of skillful facilitation.

## Creativity checklist



Creativity Checklist			
Use this checklist to assess the creativity dimension of your workplace.			
Dimension	Rating		
	Adequate	A Strength	Needs Improvement
<b>Your Leadership Style</b>			
I can describe my own preferred style of thinking and working.			
I have talked with members of my group about their preferred modes of problem solving.			
I encourage intellectual conflict within my group.			
When group members disagree, I help them determine the source of their differences.			
When communicating with others, I take into consideration their preferred thinking style.			
<b>Diversity of Styles</b>			
I am aware of the creative value of diverse thinking styles, and try to incorporate this diversity in teams.			
I actively seek out or hire people with diverse backgrounds and thinking styles.			
Our group recognizes the conflict that creative abrasion can cause, but also recognizes its value.			
We have taken formal diagnostic tests to identify thinking or learning styles, and discussed the results of these assessments.			
<b>Your Work Group</b>			
The majority never ignores the minority opinions in my work group.			
I have added someone to my work group specifically because he/she brings a fresh perspective.			
Our work environment supports those who think differently from the majority.			
The thinking styles, skills, and experiences of my work group's members are diverse and balanced.			
I actively look for group members whose thinking styles differ from my own.			
I help my group establish and agree upon a clear project goal at the start of each project.			
My group has formally agreed-upon behavior guidelines for how they should work together and treat each other.			
<b>The Psychological Environment</b>			
I support people taking intelligent risks, and do not penalize them when they fail.			
There are opportunities for people to take on assignments that involve risk and stretch their potential.			
We openly discuss risk taking, assess the risk potential of projects, and make contingency plans or identify risk management strategies.			
Rewards and/or recognition are given for creative ideas.			
As long as they show learning from the experience, group members are not penalized for experimentation and risk taking.			
<b>The Physical Workspace</b>			
Our workspace includes stimulating objects such as journals, art, and other items that are not directly related to our business.			
I have made changes to our physical workspace to improve communication and creative interaction.			
I provide group members with a wide variety of traditional and nontraditional communication tools (e-mail, whiteboards, crayons and paper, etc.).			
Group members are encouraged to make their workspaces reflect their individuality.			
Our workspace includes both areas for boisterous interaction and areas for quiet reflection.			
<b>Bringing in Outsiders or Alternative Perspectives</b>			
Our group makes visits to people outside the division or organization in order to find different perspectives and ideas.			
Our group has observed customers actually using our product or service in their own environment.			
Our group has observed our customers' customers using our product or service in their own environment.			
I have arranged for speakers from other industries to come talk to or work with my group.			
Our group has observed people using competitors' products or services.			
Our group has benchmarked the functions and characteristics of our products, services, or internal processes against an industry other than our own.			
<b>Promoting Group Convergence</b>			
I encourage group members to bring up and discuss non work-related subjects when they interfere with work.			
When a project has been completed, I hold a debrief meeting to determine specifically what to do differently (or the same) the next time.			
When I hold a debrief meeting, I always make sure that all members can be present.			
When my group is stuck on a problem, I make sure they get "down time" or time off to step back, relax, and allow their subconscious minds to work.			
At the end of a project, I provide a way for my group to celebrate and rejuvenate.			
Project schedules allow enough time for group brainstorming and discussion of ideas.			

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# Form for setting a target for creative change

Form for Setting a Target for Creative Change		
Use this form to help you think through a creative change you would like to make, identifying what the benefits would be to you, your team, or your business.		
<b>Target</b>		
What is an area you want to target for creative input or change? <i>For example: new product development, improved customer service, new marketing programs.</i>		
Within this area, what is the specific outcome or result you would like? <i>For example: five new ideas for next year's marketing programs for X product.</i>		
What kind of change are you looking for? <input type="checkbox"/> adaptive (incremental change to existing structure) <input type="checkbox"/> or innovative (something novel or new)?		
What are the potential business benefits of this effort? What difference will it make? <i>For example: increased revenue, increased efficiency, increased customer satisfaction, etc.</i>		
What are the personal or team benefits of this effort?		
<b>Team</b>		
What is the current creative make-up of the team members who will work on this creative challenge?		
Member	Role/How (s)he can contribute	Preferred thinking style* (1, 2, 3, or 4)
* 1 Rational: logical, analytical, fact-based    2 Experimental: intuitive, risk-taking, integrative    3 Organized: planner, detail-oriented 4 Feeling: interpersonal, emotional, feelings-based		
Do you have the right mix of styles to encourage creativity? And the expertise required? <input type="checkbox"/> Yes <input type="checkbox"/> No. Additional styles needed: <input type="checkbox"/> No. Additional expertise needed:		
Do you have the in-house resources to meet these needs? If not, how can you bring in outsiders or others to fill in the gaps? <i>For example, hire a consultant with technical expertise.</i>		
Where is the team currently stuck? What behaviors tell you this?		
What measures can help minimize or overcome these obstacles?		
<b>Techniques — Select creative techniques you'll use.</b>		
Brainstorming techniques: (producing lots of original ideas while suspending judgment)		
<input type="checkbox"/> Fixation (for example, imagining, in detail, an ideal solution)	<input type="checkbox"/> Experimenting (such as combining elements in novel ways and then testing combinations)	
<input type="checkbox"/> Modifying (generating new ideas by expanding on or adapting what already exists)	<input type="checkbox"/> Exploratory (such as guided imagery, use of analogies, metaphors)	
Creative problem-solving techniques:		
Other:		
<b>Time Frame</b>		
Kick-off date:		Desired completion date:
Reasons for target time:		
Planned sequence of events:		
Activity	Date	Person Responsible
<b>Communication Plan</b>		
What information needs to be communicated, to whom, and by when?		
Who has input into the process? Who are the stakeholders? Who has veto power?		

What communication vehicles or tools will you use?	
Who needs to be informed of progress?	When?
Who needs to be informed of results?	When?
Who on the creative team is taking responsibility for communicating the process and results? For gaining alignment and agreement?	

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## Psychological environment for creativity assessment

<i>Psychological Environment for Creativity Assessment</i>			
<i>Use this assessment to evaluate how your current reward structure, group norms and attitudes, and management style support creativity.</i>			
Question	Rating		
	Adequate	A Strength	Needs Improvement
1. Are group guidelines already in place? Are they articulated and disseminated?			
2. Do you, as the manager, encourage risk taking?			
3. Are people allowed to take intelligent risks, and fail, without being penalized?			
4. When someone fails, do you help him and the group find the learning in the failure?			
5. Do you distinguish between intelligent failures (something risky, but promising) and mistakes (something clearly avoidable)?			
6. Do your current rewards motivate group members to be creative?			
7. Do you currently have rewards for creative ideas/suggestions?			
8. Do you have both extrinsic (for example, money) and intrinsic (for example, providing a sense of accomplishment) rewards in your current reward system?			
9. Do you recognize group members who successfully work outside their preferred thinking style or area of expertise?			
10. Do you support intellectual conflict within your group?			
11. Do you encourage people to point out unacknowledged and taboo subjects that are holding the group back?			
12. Do you reward collaboration?			
13. Do individuals have freedom to choose their projects or to determine how they reach their agreed-upon goals?			
14. Are you, as a manager, alert to individuals who may be burning out?			
15. Do you celebrate small successes?			
16. Do you encourage the group to stop and review how much progress it has made?			
<b>Ideas for Improvement</b>			
Based on your answers, what refinements would you make to your group's norms? To your reward structure? To your own management style?			

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## Enhancing the creativity of the physical workspace worksheet

<i>Enhancing the Creativity of the Physical Workspace Worksheet</i>		
Use this worksheet to inventory your physical workspace and generate ideas for improvements that take into account the level of alteration that is possible.		
Dimension	Current Condition	Ideas for Improvement
Accessible, casual meeting space		
Physical stimuli (for example, books, videos, art on walls, journals)		
Space for quiet reflection		
Variety of communication tools (for example, whiteboards, bulletin boards, e-mail)		
Employee-only space		
Customer contact space		
Space for individual expression		
Game or relaxation area		

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## Planning for innovation worksheet

<i>Planning for Innovation Worksheet</i>	
Innovation is an outcome of the creative process, and involves identifying and implementing the new idea. Use this worksheet to help plan how this idea will be rolled out, and to identify the critical factors needed for it to be accepted.	
Idea:	Date:
Generated by:	
Innovation (what form the idea will take):	
Sources of Support	
What sources of assistance or support are needed to carry out this innovation?	
Who	Why Needed
What (money, resources, etc.)	
Ways to gain and strengthen support	
Sources of Resistance	
What are the sources of resistance—people to policies, procedures, and so forth—that could impede the process of innovation?	
Who	Why

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## Form for listing attributes

<i>Form for Listing Attributes</i>	
Use this form to generate ideas about how you could improve upon any one or more attributes, or qualities of a product, process, or procedure. List the attributes in one column, ideas for improvement in the other. This can be done as a solo activity, but it may be more effective with a group.	
Target: (Product, process, service, that you are seeking to improve)	
Attributes	Ideas for Improvement
Example: A bike has a frame	Make the frame lighter

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## Why Develop Others?

“At the end of the day, you bet on people, not strategies.”

Larry Bossidy

Former CEO, AlliedSignal

In today’s global business environment, markets and regulations change quickly. Competitors constantly innovate. Technological changes are the norm.

In order to outmaneuver the competition and meet the demands of the moment, organizations must be agile. They must execute flawlessly. And they must transform themselves continuously.

Are your leaders ready?

Dr. Noel M. Tichy

Professor

University of Michigan Ross School of Business

We have now entered an era where I don’t care what industry you’re in, you need leaders who

can make decisions, make judgment calls at every single level. All the way down to the interface with the customer.

If you go to a company like Google or any of the high tech companies, a lot of the innovation that Amazon does is happening right at the front line. Go ahead, try it, put it out there, we'll learn from it. That cannot happen if the senior leadership doesn't have a commitment to both develop the leadership capability, but develop the business through engaging people at all levels of the organization.

### Becoming a teaching organization

I like to tell parents that they cannot delegate their responsibility to develop their children. And I think it is the same in an organization. Day in and day out the person that has the biggest impact on people in the organization is the next level above and the associates around and below. And so to build a learning organization I say is not enough. Learning could be, you know we are learning cooking, we are learning this or that, but teaching organizations, when I learned something, I have a responsibility to teach my colleagues.

So everybody takes responsibility for generating new knowledge and it is not enough to be a learner, you then have to translate it into teaching.

### The Virtuous Teaching Cycle

The role of a leader is to ensure that the people who work for them and around them are better every day. There's only one way to make people better. It's to teach them, learn from them, create what I call "virtuous teaching cycles", not command and control.

A virtuous teaching cycle is teach learn, teach learn. And the leader has a responsibility for reducing the hierarchy, for having a point of view to start the discussion, but then to be responsible to hear everyone's voice, get everyone involved in a disciplined way. It is not a free for all. But it is the leader's responsibility to create that virtuous teaching cycle.

A wonderful example of virtuous teaching cycle is the program that Roger Enrico ran at Pepsi, where every one of the 10 vice presidents comes with a business project.

Roger Enrico gets smarter as result of five days with 10 vice presidents, because he's learning from them. He needs to lower the hierarchy. He needs to be open to learning. And in turn, the people participating need to be energized and empowered to come up and engage in problem solving.

Another example is at Best Buy, where every morning in the stores you would bring 20 associates or so together and they would review the profit and loss statement from the day before, what we learned from the different customer segments in our stores, what we can do to improve our performance this day. And they do that every single day. The store manager was learning mostly from the associates on the floor.

That was a virtuous teaching cycle where everybody is teaching everybody, everybody is learning and the result has been an incredible result at Best Buy.

"The growth and development of people is the highest calling of leadership."

- Harvey S. Firestone

Founder, Firestone Tire and Rubber Co

There are clear advantages to leader-led development.



But for many leaders, taking on teaching, coaching, and other development responsibilities can seem daunting. You might avoid taking on these roles due to lack of time, resources, or your own lack of comfort with this role.

The following tips and resources can help you impart valuable learning to your team every day.

To develop others...

- Start with a Teachable Point of View

The first requirement of being able to develop other leaders is to have what I call a teachable point of view. I often give the example of, if I ran a tennis camp and you just came to day one of the tennis camp, I better have a teachable point of view on how I teach tennis. So you are standing there looking at me and it has got four elements. One, the ideas, well how do I teach the backhand, the forehand, the serve, rules of tennis. Then if I am a good tennis coach, I have a set of values. What are the right behaviors I want, how do I want you to dress, how do I want you to behave on the tennis court.

But if that's all I have, what do I do? Show you a power point presentation and then expect you to hit 500 backhands, 500 serves, run around for eight hours. I have to have a teachable point of view on emotional energy. How do I motivate you to buy in to the ideas and values?

On one end of the spectrum it could be I threaten you with corporal punishment, the other I can give you stock options, I can make you feel good about yourself, I can help you develop as a human being, what motivates you.

And then finally, how do I make the tough judgment calls, the yes/no, decisions as the tennis coach, the ball is in, the ball is out. I don't hire consultants and set up a committee, it is yes/no. And the same with running a business, what are the products, services, distribution channels, customer segments that are going to grow top line growth and profitability of the organization.

What are the values that I want everyone in the organization to have, how do I emotionally energize thousands of people, and then how do I make the yes/no, judgments on people and on business issues. So the fundamental building block of being able to develop other leaders is to have that teachable point of view just like the tennis coach.

To develop others...

- Lead with questions

Questions are hugely important because you want to create dialogue and again, what I call a virtuous teaching cycle where the teacher learns from the students and vice versa. Which means everybody ought to be free to ask whatever is on their mind, whatever it will take to get clarity and understanding, but it is not the leader just coming in and freeform asking questions. I believe the leader has a responsibility for framing the discussion, for having as best they can a teachable point of view, they may need help from their people in flushing it out, but they need to set the stage but then it has to be a very interactive, what I call virtuous teaching cycle environment, teach learn, teach learn, teach learn.

To develop others...

- Make it part of your routine

A good example to me of an outstanding leader developing other leaders is Myrtle Potter who at the time I am commenting was Chief Operating Officer of Genentech running the commercial side of the business. And she would take time at the end of every single meeting and do some coaching of the whole team on how we could perform as a team better, and then she would

often take individuals and say, could we spend 10 minutes over a cup of coffee, I want to give you some feedback and coaching on that report that you just presented on or how you are handling a particularly difficult human resource issue, but it was part of her regular routine. And I think the challenge for all of us as leaders is to make that a way of life and it is built into the fabric of how we lead and it is not a one off event, three times a year. It is happening almost every day.

To develop others...

- Make it a priority

One of the biggest challenges in getting people kind of on this path is to overcome some of their own resistance, either fear or the way I view the world I don't have time for this, everybody can make time. Roger Enrico is CEO of Pepsi. He didn't have time to go off for a week at a time and run training sessions. He had to readjust his calendar. So it requires you to look in the mirror and say, is this important. If it is important, of course I can make the time. Then I have to get over my own anxiety on how well I can do it, but it is a commitment to get on the path that says: this is how I am going to drive my own performance and the performance of my colleagues.

To develop others...

- Learn to teach

I think the biggest mistake is to assume you are going to be good at it right off the bat. It is like learning anything else. First time you go out and try and play tennis, good luck. But you got to stay with it and you got to engage your people in helping make you better and them better. And so it is a journey you need to get on, not I am going to do it perfectly when I start out.

If you want to be a great leader who is a great teacher, it's very simple. You have got to dive into the deep end of the pool. But you've got to dive into the pool with preparation. I don't want you drowning. I want you succeeding. It is extraordinarily rewarding for most human beings to teach others. I think once you can turn that switch on, it is self perpetuating. You get a lot of reinforcement, your team is better. You perform better because your performance goes up and it becomes this virtuous teaching cycle.

Your opportunity to develop others

We've heard why developing others can drive greater business results, and how to make the most of your leader-led development efforts. The materials provided in Develop Others enable you to create personalized learning experiences for YOUR team within the flow of their daily activities. Use the guides and projects to engage your team quickly. And to explore how key concepts apply to them in the context of their priorities and goals.

The value of teaching is the performance of the organization is totally dependent on making your people smarter and more aligned every day as the world changes. In the 21st century we are not going to get by with command and control. We are going to have to get by with knowledge creation. The way you create knowledge in an organization is you create these virtuous teaching cycles where you are teaching and learning simultaneously, responding to customer demands and changes, responding to changes in the global environment. My bottom line is if you're not teaching, you're not leading.

A leader's most important role in any organization is making good judgments — well informed, wise decisions about people, strategy and crises that produce the desired outcomes. When a leader shows consistently good judgment, little else matters. When he or she shows poor judgment nothing else matters. In addition to making their own good judgment calls, good leaders develop good judgment among their team members.

**Dr. Noel M. Tichy**

**Professor, University of Michigan Ross School of Business**

Dr. Noel M. Tichy is Professor of Management and Organizations, and Director of the Global Business Partnership at the University of Michigan Ross School of Business. The Global Business Partnership links companies and students around the world to develop and engage business leaders to incorporate global citizenship activities, both environmental projects and human capital development, for those at the bottom of the pyramid. Previously, Noel was head of General Electric's Leadership Center at Crotonville, where he led the transformation to action learning at GE. Between 1985 and 1987, he was Manager of Management Education for GE where he directed its worldwide development efforts at Crotonville. He currently consults widely in both the private and public sectors. He is a senior partner in Action Learning Associates. Noel is author of numerous books and articles, including:

For more information about Noel Tichy, visit <http://www.noeltichy.com>.

## Share an Idea

Leaders are in a unique position to recognize the ideas and tools that are most relevant and useful for their teams. If you only have a few minutes, consider sharing an idea or tool from this topic with your team or peers that is relevant and timely to their situation.

For example, consider sending one of the three recommended ideas or tools below to your team with your comments or questions on how the idea or tool can be of value to your organization. By simply sharing the item, you can easily engage others in important conversations and activities relevant to your goals and priorities.

[Steps for enhancing your own creative potential](#)

[Tips for providing outside stimulation for your group](#)

[Creativity checklist](#)

To share an idea, tip, step, or tool with your comments via e-mail, select the EMAIL link in the upper right corner of the page that contains the idea, tip, step, or tool that you wish to share.

## Discussion 1: Building a creative and innovative team

As a manager, you are the primary designer of your group. Though you probably did not have the opportunity to handpick every one of your direct reports, you can help them become a highly productive team by shaping and molding their interactions. Effectively managing their various personalities can unleash your team's creative potential. A creative and innovative team benefits customers, employees, and long-term business performance.

Use these resources to lead a discussion with your team about (1) critical steps in the creative process, (2) characteristics of creative groups and teams, and (3) building intellectual diversity.

Download resources:

[Discussion Invitation: Building a Creative and Innovative Team](#)  
[Discussion Guide: Building a Creative and Innovative Team](#)  
[Discussion Slides: Building a Creative and Innovative Team \(optional\)](#)  
[Tips for Preparing for and Leading the Discussion](#)

The discussion you have with your team will help them maximize their creative potential as participants in a project or functional team.

Working through this discussion guide can take up to 45 minutes. If you prefer a shorter 15- or 30-minute session, you may want to focus only on those concepts and activities most relevant to your situation.

## Discussion 2: Creative ideas from outside the organization

Much of your team's effort to generate creative ideas is probably focused within your organization, yet there are many potential external sources for creative thinking. Does your team currently draw ideas from outside sources, such as customers? Do you and your colleagues capitalize on relationships with people whose perspectives may differ greatly from your own?

Use these resources to lead a discussion with your team about (1) engaging customers in the pursuit of new ideas, (2) using Web research to generate creative ideas, and (3) building your network of creative influencers.

Download resources:

[Discussion Invitation: Creative Ideas from Outside the Organization](#)  
[Discussion Guide: Creative Ideas from Outside the Organization](#)  
[Discussion Slides: Creative Ideas from Outside the Organization \(optional\)](#)  
[Tips for Preparing for and Leading the Discussion](#)

The discussion you have with your team will help them identify new ways to engage outside resources to stimulate creative ideas.

Working through the discussion guide can take up to 45 minutes. If you prefer a shorter 15- or 30-minute session, you may want to focus only on those concepts and activities most relevant to your situation.

## Start a Group Project

Just like any change effort, successfully incorporating new skills and behaviors into one's daily activities and habits takes time and effort. After reviewing or discussing the concepts in this topic, your direct reports will still need your support to fully apply new concepts and skills. They will need to overcome a variety of barriers including a lack of time, lack of confidence, and a fear of making mistakes. They will also need opportunities to hone their skills and break old habits. To help ensure their success, you can provide safe opportunities for individuals and your team as a whole to practice and experiment with new skills and behaviors on the job.

For example, to encourage the adoption of new norms, you can provide your team members with coaching, feedback, and additional time to complete tasks that require the use of new skills. Management approaches such as these will encourage team members to experiment with new skills until they become proficient.

Group learning projects provide another valuable technique for accelerating team members' development of new behaviors. A group learning project is an on-the-job activity aimed at providing team members with direct experience implementing their new knowledge and skills. Through a learning project, team members discover how new concepts work in the context of their situation, while simultaneously having a direct and tangible impact on the organization.

The documents below provide steps, tips, and a template for initiating a group learning project with your team, along with two project recommendations for this topic.

Download resources:

[Tips for Initiating and Supporting a Learning Project](#)

[Learning Project Plan Template](#)

[Learning Project: Physical Workspace Assessment and Improvement](#)

[Learning Project: Team Brainstorming Session](#)

## How Pixar Fosters Collective Creativity

[Ed Catmull. "How Pixar Fosters Collective Creativity." \*Harvard Business Review\*, September 2008.](#)

[Download file](#)

### Summary

Many people believe that good ideas are rarer and more valuable than good people. Ed Catmull, president of Pixar and Disney Animation Studios, couldn't disagree more. That notion, he says, is rooted in a misguided view of creativity that exaggerates the importance of the initial idea in developing an original product. And it reflects a profound misunderstanding of how to manage the large risks inherent in producing breakthroughs. In filmmaking and many other kinds of complex product development, creativity involves a large number of people from different disciplines working effectively together to solve a great many inherently unforeseeable problems. The trick to fostering collective creativity, Catmull says, is threefold: Place the creative authority for product development firmly in the hands of the project leaders (as opposed to corporate executives); build a culture and processes that encourage people to share their work-in-progress and support one another as peers; and dismantle the natural barriers that divide disciplines.

## Creativity and the Role of the Leader

[Teresa M. Amabile and Mukti Khair. "Creativity and the Role of the Leader." \*Harvard Business Review\*, October 2008.](#)

[Download file](#)

### Summary

In today's innovation-driven economy, understanding how to generate great ideas has become an urgent managerial priority. Suddenly, the spotlight has turned on the academics who've studied creativity for decades. How relevant is their research to the practical challenges leaders face? To connect theory and practice, Harvard Business School professors Amabile and Khair convened a two-

day colloquium of leading creativity scholars and executives from companies such as Google, IDEO, Novartis, Intuit, and E Ink. In this article, the authors present highlights of the research presented and the discussion of its implications. At the event, a new leadership agenda began to take shape, one rooted in the awareness that you can't manage creativity—you can only manage for creativity. A number of themes emerged: The leader's job is not to be the source of ideas but to encourage and champion ideas. Leaders must tap the imagination of employees at all ranks and ask inspiring questions. They also need to help their organizations incorporate diverse perspectives, which spur creative insights, and facilitate creative collaboration by, for instance, harnessing new technologies.

## Don't Try This Offshore

Stephen Brown, Daniel H. Pink, John Chuang, Richard Phelps, and Charlie Wrench. "Don't Try This Offshore." *Harvard Business Review*, September 2008.

[Download file](#)

### Summary

Since the mid-1990s, management-metaphor boutique Serendipity Associates (SA) has been offering clients sizzling similes and snappy sound bites. But the head of SA, Barton Brady, gets word that someone is now poaching in his territory. It's the low-rent operation Tropes R Us, which has started offshoring production to Ireland and will soon flood the market with high-quality, low-cost metaphors. Does this move confirm Brady's fear that the U.S. is losing its competitive edge in right-brain work? Four experts comment on this fictional case study. Daniel H. Pink, an author and consultant, says SA should move to higher ground—to find new ways to differentiate itself on the basis of right-brain capabilities that will be difficult to offshore. Doing this, he writes, requires an education system that nurtures creativity. John Chuang, CEO of talent consulting firm Aquent, writes that Brady could rally U.S. citizens to protest the country's current immigration policy, which makes it difficult for companies to import top talent. Brady should also broaden the definition of SA's business. Richard Phelps, a human resource executive at PricewaterhouseCoopers, argues that contrary to the prevailing view of many in the West, workers in emerging economies are equal to the demands of creative work. SA should assemble the best right brains on the planet and either hire them or contract with them to represent the SA brand. Charlie Wrench, the CEO of brand and design consulting firm Landor Associates, advises Brady not to worry about his country—which Wrench believes will continue to attract a disproportionate share of the world's creative talent—but about his multinational clients, who need service providers to display a powerful combination of right-brain and left-brain skills.